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**OPERATIONS & MAINTENANCE
FOR PUBLIC BUILDINGS WITH
LEAD-BASED PAINT**

UMASS/AMHERST



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Commonwealth of Massachusetts

**DEPARTMENT OF LABOR AND
WORKFORCE DEVELOPMENT**

Division of Occupational Safety

Asbestos and Lead Program

GOVERNMENT DOCUMENTS
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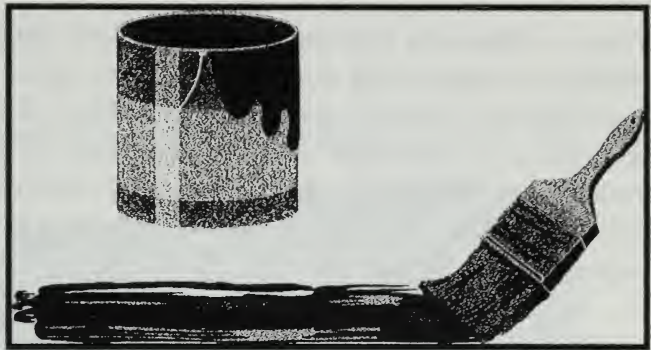
University of Massachusetts
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The purpose of this pamphlet is to introduce the main components of the safe management of lead-based paint encountered during the routine maintenance of public buildings, especially schools. Examples of such activity include repair of a damaged section of a wall, installation of an electrical outlet or repair of a window.

In such a short space, however, this publication can only summarize the principal topics. It cannot provide the detailed guidance necessary to develop and implement an adequate plan for the management of lead-based paint. For further assistance, see the resource section at the end of this pamphlet.

USES OF LEAD-BASED PAINT

Before the 1970s lead-based paint was commonly applied to interior and exterior surfaces of public buildings and residences. Lead was also a component of some lacquers, primers and varnishes. Although lead-based paint was banned from most uses in the 1970's, workers today can have very high lead exposure from activities which result in the disturbance or removal of surface coatings containing lead: such as in building repair, residential renovation and deleading, and demolition. In the construction field, lead has also been used for roofs, tank linings, and electrical wiring.



HOW DOES LEAD AFFECT THE BODY?

Lead poisoning has been a serious health concern for centuries. Even though much is known about lead and how it can affect your health, lead poisoning is still very common today.

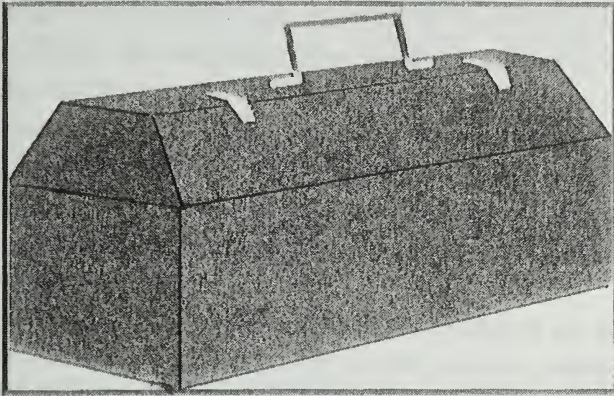
Workers can be exposed to lead by breathing in lead dust or fumes from work activities, by eating, drinking or smoking in work areas, or by handling contaminated objects - and accidentally swallowing lead dust. Workers in many workplaces have so much lead in their bodies that they are slowly being poisoned. The symptoms may hardly be noticeable at first. But over time, lead can damage the brain, blood, nerves, kidneys and reproductive organs. This damage can cause serious disability: memory loss, extreme tiredness, emotional problems, even kidney failure, coma or death.

Young children are especially affected by lead. Improper work practices can cause lead dust to contaminate areas beyond the immediate work area and poison young children. Lead dust can also collect on employees' work clothes during the day. When those clothes are worn home, the lead can contaminate workers' cars and homes. Young children can then be poisoned by the lead-contaminated dust.

Lead poisoning can occur when people are exposed to large or small amounts of lead over time. Lead builds up in the body and may cause temporary or permanent damage. A blood lead test can show whether your body has recently absorbed a dangerous amount of lead. A high blood lead level is an indication that lead is building up in the body faster than it can be eliminated.

WHAT IS AN O&M PROGRAM?

In the course of maintaining and repairing a building, workers engage in a variety of activities that may disturb lead paint or other lead products. In order to protect both employees and occupants, these activities must be managed in a manner that eliminates or minimizes lead exposure. An essential element in the in-place management of lead is a lead "operations and maintenance" (O&M) program. A lead O&M program is a set of procedures and work practices that should be followed during routine building maintenance and cleaning.



ESSENTIAL ELEMENTS OF AN O&M PROGRAM

A written O&M program describes, in detail, the procedures to be followed in minimizing lead exposures during routine maintenance and cleaning. The program should cover the following material:

1. LEAD PROGRAM MANAGER

One person should be designated to manage the lead-based paint O&M program. This person should be trained in lead hazards and in specific requirements for operations and maintenance activities around lead-painted surfaces. The designated person's name, title, and phone number should be listed in the O&M program.

2. SURVEY RESULTS

Testing for the presence of lead-based paint is recommended for all suspect surfaces. All lead inspection and survey results should be part of the O&M Program. X-Ray Fluorescence(XRF)reports, laboratory analyses results, spot-testing results, field sheets, and field notes should be organized in a section of the document. Survey results should be easily accessible for reference. Lead-based paint (LBP) surfaces should be visually inspected periodically depending on conditions. This section should be updated when additional lead surveys are performed.

The survey results provide a description of the location of lead-based paint. An easy way to compile these results is to mark the locations on construction (as-built) drawings. The location of LBP should be updated as new survey results are obtained and when LBP is removed. Any enclosures around LBP should also be noted on the construction drawings.

3. GENERAL PROCEDURES AND WORK PRACTICES

The general procedures and work practices which apply to the site should be included in a separate section of the O&M program. The procedures and work practices for specific tasks can be removed from the O&M program and used by maintenance workers in performing O&M activities.

4. TRAINING

All worker training must comply with federal, state and local

requirements and should be documented in the O&M program.

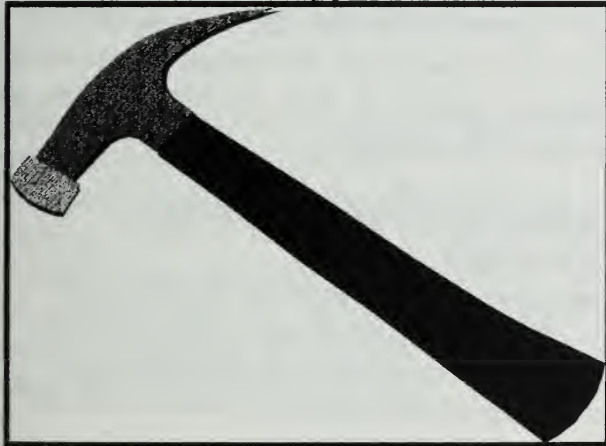
Documentation requires placing copies of training certificates, class rosters, and course outlines in a section of the program. The section should be updated as additional training is completed.

O&M PROGRAM MANAGEMENT

In managing lead-related tasks the Lead Program Manager should assure the completion of the following:

1. SCHEDULING

O&M work activities disturbing lead-based painted surfaces should be scheduled through the Lead Program Manager. A major scheduling issue has to do with the need to relocate building occupants. Ideally, work areas should be vacant while LBP O&M work is taking place.



2. NOTIFICATION OF OCCUPANTS

Building occupants should be informed of the presence of lead-based paint and the hazards associated with it. Occupants should understand the importance both of not disturbing lead-based paint and of reporting the presence of chipping/flaking paint or visible dust and debris.

Occupants should be notified prior to the start of lead-based paint O&M work affecting areas they use. Occupants should receive advanced notice when relocation will be necessary.

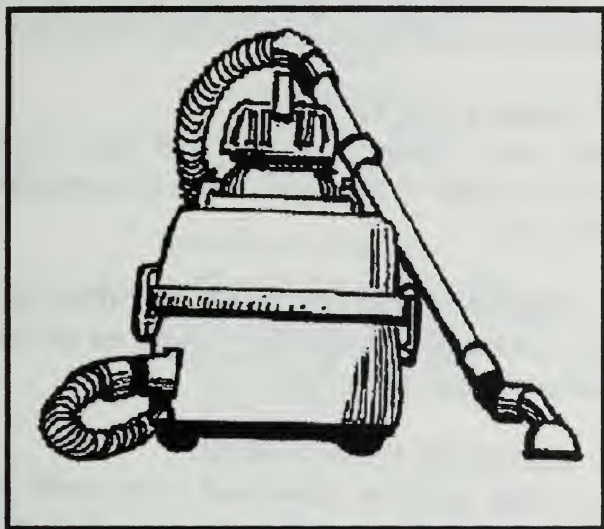
3. TRAINING

The work practices are intended to minimize lead exposure both to workers and to building occupants. Workers should not undertake any of these tasks, however, without having a basic understanding of the hazards of lead, the measures needed to protect themselves and others from lead exposure, and at least the minimum training required by law. In addition, state and local regulations should be consulted.

4. RECOMMENDED HOUSEKEEPING PROCEDURES

Lead-contaminated dust can be generated by the friction of painted surfaces. Window sills, stools and troughs are likely areas for this type of lead-contaminated dust accumulation. Exterior lead-contaminated dust may also be tracked into and accumulate on and around entryways.

The recommended housekeeping procedure is periodic damp wiping or wet cleaning of areas such as those mentioned above. Horizontal surfaces (e.g., floors, stairs) where children play frequently should receive special attention.



Increased efficiency vacuum cleaner bags are advertised by many manufacturers for use with normal vacuum cleaners. Their use is recommended as a reasonably inexpensive precaution for routine cleaning where no LBP chips or dust are present, though no scientific data currently exist to verify the manufacturer's advertising claims. If High Efficiency Particulate Air (HEPA) vacuum equipment is available, its periodic use for normal cleaning is strongly recommended.

5. **WORK PERMITS**

The Lead Program Manager should issue a work permit before any lead-related maintenance is performed, either by building employees or outside contractors. This procedure is used to determine the presence of lead before work begins and to ensure that appropriate protection and work practices are used.

6. **WORK PRACTICES**

Appropriate work practices must be used that minimize the generation of lead dust or fume and prevent the contamination of surrounding areas.

7. **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Employers must ensure that service workers are provided with and trained to use appropriate PPE.

8. **EXPOSURE MONITORING**

Exposure to lead should be determined in the course of work. Where possible and/or necessary, dust sampling should be performed before allowing areas to be occupied.

9. **MEDICAL SURVEILLANCE**

O&M workers should be tested periodically to ensure that they are medically able to wear respirators and to measure their blood lead levels.

10. **RECORDKEEPING**

Complete records, such as work performed and training, should be kept of all O&M activities.

RESOURCES

Organizations

Division of Occupational Safety
Massachusetts Department of Labor & Workforce
Development
1001 Watertown St.
W. Newton, MA 02165
(617) 969-7177

National Institute for
Occupational Safety and Health
4676 Columbia Parkway
Cincinnati, OH 45226
(800) 356-4674

Publications

Lead-Based Paint: Operations & Maintenance Work Practices Manual for Homes and Buildings. A detailed guide on development and implementation of an O&M program, available from:

The National Institute of Building Sciences, Publications Dept.
1201 L Street, NW, Suite 400
Washington, D.C. 20005
Tel. (202) 289-7800 Fax (202) 289-1092

*Protecting Workers and Their Communities from Lead Hazards:
A Guide for Protective Work Practices and Effective Worker
Training*

A book on lead in construction with chapters on O&M work practices and worker training, available from:

Society for Occupational and
Environmental Health
6728 Old McLean Village Drive
McLean, VA 22101
Tel. (703) 556-9222

Portions of this booklet were taken from *Lead-Based Paint - Operations & Maintenance Work Practices Manual for Homes and Buildings*, by The National Institute of Building Sciences, May 1995.

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